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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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JAECKLE FLEISCHMANN & MUGEL, LLP  
190 Linden Oaks  
ROCHESTER, NY 14625-2812

EXAMINER
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LEYSON, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/849,341

Applicant(s)

ANAND ET AL.

Examiner

Joseph Leyson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-12,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I, Species B, drawn to claims 15-17 in the reply filed on May 10, 2006 is acknowledged. After further review of the claims, claims 1, 2 and 4-12 are found to be generic to both Species A and B, and the examiner has withdrawn the species restriction requirement. However, the restriction between the inventions of Group I and II remains.
2. Claims 13 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 10, 2006.
3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).
4. The title should be amended to reflect the above election, i.e., apparatus only.

### *Drawings*

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 64 and because the correspondence of the reference signs in figures 9 and

10 to the description is incorrect. The description (pp. 8-9) discloses 64, 66, 68, 70, 72 and 74, but figures 9 and 10 show 66, 68, 70, 72, 74 and 76, respectively.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Woinowski (U.S. Patent 4,277,432).

Woinowski (U.S. Patent 4,277,432; fig. 2) teaches an extrusion head for continuous extrusion of a molten polymer in a predetermined cross-sectional shape, the molten polymer being supplied from a source, the cross-sectional shape including at least one lumen, the head including an extrusion tip 10 having an outer surface, an

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extrusion die 26 surrounding the tip 10 and having an inner surface cooperating with the tip surface to define a flow channel therebetween (fig. 2), the flow channel defining a direction of flow of the molten polymer in the head, and at least one lumen pipe assembly 30 extending through a wall of the die 26 into the flow channel, the pipe assembly having a first portion extending transversely of the flow direction and a second portion extending parallel to the flow direction, the first and second pipe portions being joined at a right angle forming a bent pipe (i.e., fig. 2; col. 3, lines 35-44). The extrusion tip 10 defines a mandrel with a tip portion and a conical portion adjacent to the tip portion, and the extrusion die 26 includes a conical surface adjacent the die inner surface, the conical portion and the conical surface cooperating to define a conical flow channel adjacent the flow channel containing the lumen pipe (i.e., fig. 2, col. 3, lines 35-44). The outer surface and the inner surface are cylindrical, and the flow channel is annular (i.e., fig. 2). The extrusion tip 10 includes an axial passage therethrough (fig. 2).

8. Claims 1 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by de Kok (U.S. Patent 4,321,228).

de Kok (U.S. Patent 4,321,228) teaches an extrusion head for continuous extrusion of molten polymer in a predetermined cross-sectional shape, the molten polymer being supplied from a source, the cross-sectional shape including lumens, the head including an extrusion tip (i.e., fig. 1, includes core 4 and other unlabeled but shown mandrel parts) having an outer surface, an extrusion die (i.e., fig. 1, includes housing 3 and other unlabeled but shown parts surrounding the extrusion tip)

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surrounding the tip and having an inner surface cooperating with the tip surface to define a flow channel therebetween, the flow channel defining a direction of flow of the molten polymer in the head, and a lumen pipe assembly 6, 9, 15 extending through a wall of the die into the flow channel, the pipe assembly having a first portion 9 extending transversely of the flow direction and a second portion 6 extending parallel to the flow direction, the first and second pipe portions being joined at a right angle (figs. 1 and 2), and the lumen pipe assembly having a plurality of lumen pipes 6. The extrusion tip is an element of a mandrel having a conical portion adjacent the extrusion tip, and the extrusion die includes a conical surface adjacent the die inner surface, the conical portion and the conical surface cooperating to define a conical flow channel adjacent the flow channel containing the lumen pipes 6 (i.e., see fig. 1). The extrusion die comprises parts joinable along mating surfaces thereof, and the lumen pipe assembly is disposed in features formed in the mating surfaces (i.e., figs. 1 and 2). The outer surface and the inner surface are cylindrical, and the flow channel is annular (i.e., figs. 1 and 2). Note that "lumen pipe assembly" in the instant claims can include elements other than a lumen pipe.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woinowski (U.S. Patent 4,277,432) in view of Applicant's admission.

Woinowski (U.S. Patent 4,277,432) discloses the extrusion head substantially as claimed, as mentioned above, except for a plurality of lumen pipes or for the extrusion head being a crosshead.

Applicant's admit that crosshead extrusion heads are well known and conventional in the art for feeding extrudate at an angle to the axis of the extrusion head (instant specification at p. 1, lines 18-27) and that plural lumen pipes for forming plural lumens are well known and conventional in the art (instant specification at i.e., fig. 1, pp. 1-3, 5-6).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the extrusion head of Woinowski (U.S. Patent 4,277,432) to be a crosshead or to have a plurality of lumen pipes because Applicants admit that such modifications are well known and conventional in the prior art and would enable

feeding of extrudate at an angle to the head axis and forming of plural lumens, respectively.

12. Claims 2, 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woinowski (U.S. Patent 4,277,432) in view of Rudd et al. (U.S. Patent 4,138,457).

Woinowski (U.S. Patent 4,277,432) discloses the extrusion head substantially as claimed, as mentioned above, except for means for adjusting the radial position of the lumen pipe assembly in the flow channel, or for the extrusion head being a crosshead.

Rudd et al. (U.S. Patent 4,138,457) disclose an head extrusion head assembly for forming a plastic pipe with a lumen including a lumen pipe assembly 212 having an end portion 250 whose radial position is adjusted in a flow channel to vary the radial position of the lumen within the plastic pipe (i.e., col. 8, lines 33-53). The extrusion head is a crosshead which receives extrudate at an angle to the axis of the head (figs. 7, 8).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the extrusion head of Woinowski (U.S. Patent 4,277,432) with means for adjusting the radial position of the lumen pipe assembly in the flow channel because such means would enable the radial position of the lumen formed within the extruded pipe to be varied as disclosed by Rudd et al. (U.S. Patent 4,138,457); or to modify the extrusion head of Woinowski (U.S. Patent 4,277,432) to be a crosshead because crosshead extrusion heads are well known and conventional in the extrusion art as disclosed by Rudd et al. (U.S. Patent 4,138,457) and would provide an art recognized alternative means for providing an extrudate to an extruder head.



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13. Claims 2, 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woinowski (U.S. Patent 4,277,432) in view of Laskey (U.S. Patent 1,281,592).

Woinowski (U.S. Patent 4,277,432) discloses the extrusion head substantially as claimed, as mentioned above, except for means for adjusting the radial position of the lumen pipe assembly in the flow channel.

Laskey (U.S. Patent 1,281,592) discloses an extrusion head for forming an extrudate with a plurality of filled lumens including a die 11, a distribution manifold 15 formed in the die 11 including a plurality of runners, a plurality of lumen pipe assemblies 14 connected to the runners and having first portions extending transversely to the extrudate flow and second portions extending parallel to the flow. The radial position of the pipe assemblies 14 are adjusted by changing the length of the first portions to vary the radial position of the filled lumens within the extrudate (i.e., fig. 2).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the extrusion head of Woinowski (U.S. Patent 4,277,432) with a plurality of lumen pipe assemblies because such a modification would enable a plural number of lumens to be formed as disclosed by Laskey (U.S. Patent 1,281,592), and/or to modify the extrusion head of Woinowski (U.S. Patent 4,277,432) with means for adjusting the radial position of the lumen pipe assembly in the flow channel because such means would enable the radial position of the lumens formed within the extrudate to be varied as disclosed by Laskey (U.S. Patent 1,281,592).

14. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woinowski (U.S. Patent 4,277,432) in view of Laskey (U.S. Patent 1,281,592) as

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applied to claims 2, 5 and 9 above, and further in view of de Kok (U.S. Patent 4,321,228).

de Kok (U.S. Patent 4,321,228) disclose an extrusion head including an extrusion die having parts joinable along mating surfaces thereof, and a lumen pipe assembly 6 and 15 clamped between the mating surfaces (i.e., figs. 1 and 2).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the extrusion head such that the lumen pipe assembly is clamped between mating surfaces of the die because such a modification is well known and conventional in the art as disclosed by de Kok (U.S. Patent 4,321,228) and would provide an art recognized alternative means for assembling the extrusion head.

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woinowski (U.S. Patent 4,277,432) in view of Swobada, III et al. (U.S. Patent 4,384,901).

Woinowski (U.S. Patent 4,277,432) discloses the extrusion head substantially as claimed, as mentioned above, except for the first and second lumen pipe portions each being provided with a 45° miter and being joined by welding along the miters to form the right angle.

Swobada, III et al. (U.S. Patent 4,384,901) discloses first and second pipe portions each being provided with a 45° miter and being joined by welding along the miters to form a bent pipe.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the pipe assembly of Woinowski (U.S. Patent 4,277,432) such that the first and second lumen pipe portions each are provided with a 45° miter and are joined by welding along the miters to form the right angle because Woinowski (U.S. Patent 4,277,432) discloses the use of a bent pipe and because making bent pipe as taught by Swobada, III et al. (U.S. Patent 4,384,901) is well known and conventional in the bent pipe making art and would provide such a bent pipe.

16. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woinowski (U.S. Patent 4,277,432) in view of Sebastiani (U.S. Patent 4,012,936).

Woinowski (U.S. Patent 4,277,432) discloses the extrusion head substantially as claimed, as mentioned above, except for the bent pipe having a zero radius of curvature.

Sebastiani (U.S. Patent 4,012,936) discloses a bent pipe having a zero radius of curvature (col. 1, lines 19-31).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the bent pipe of Woinowski (U.S. Patent 4,277,432) to have a zero radius of curvature because Woinowski (U.S. Patent 4,277,432) discloses the use of a bent pipe and because bent pipes having a zero radius of curvature are well known and conventional in the bent pipe making art as disclosed by Sebastiani (U.S. Patent 4,012,936) .

***Allowable Subject Matter***

17. Claims 3, 4 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or reasonably suggest an extrusion head as recited by claim 3, particularly including the means for adjusting the radial position of the lumen pipe assembly in the flow channel including the pin vise mounted in the wall of the die; an extrusion head as recited by claim 4, particularly including the means for adjusting the radial position of the lumen pipe assembly in the flow channel including the removable gauge block; or an extrusion head as recited by claim 17, particularly including the means for adjusting the radial position of the lumen pipe assemblies in the flow channel including the removable gauge block.

***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schafer (U.S. Patent 3,228,356), Corbett et al. (U.S. Patent 3,372,920), Quackenbush et al. (U.S. Patent 3,473,193), de Kok et al. (U.S. Patent 4,323,339), Dupart et al. (U.S. Patent 5,449,281), Peter et al. (U.S. Patent 6,729,867) and Japanese reference (3-93523) are cited as of interest to show the state of the art.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (571) 272-5061. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
JL

  
ROBERT DAVIS  
PRIMARY EXAMINER  
GROUP 1300 — 1200

5/26/04